

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) Tape cutting-out equipment to wind and cut out tape supplied from a pancake in plural kinds of winding lengths on a reel, the equipment comprising:

a tape supplying device that supplies~~ing the~~ a tape from said ~~a~~ pancake ~~P~~ to a tape winding device that winds the supplied tape;

~~a tape winding device winding the supplied tape from said tape supplying device;~~

a memory unit that memorizes~~ing~~ position data of defect portions of the tape in said pancake;

a winding length deciding unit ~~deciding~~ that decides a winding length of said tape based on the position data read out from said memory unit;

a cutting device that cuts~~ing~~ said tape; and

a cutting control unit ~~controlling~~ which controls said cutting device to ~~make said cutting device cut said tape at a timing when said tape winding device winds said tape of said of the~~ winding length, which was decided by said winding length deciding unit,

wherein when said winding length deciding unit determines that no defect exists in said winding length, said winding length deciding unit determines that said winding length is the next winding length; and

wherein when said winding length deciding unit determines that a defect portion does exist in said winding length, said winding length deciding unit determines the next winding

length by determining whether or not said defect exists in a shorter winding length than said winding length.

2. (CURRENTLY AMENDED) Tape cutting-out equipment according to claim 1, wherein when said winding length deciding unit determines that no defect exists in a plurality of winding lengths, determining whether or not a defect portion exists in one kind of winding length and judging that no defect portion exists based on position data read from said memory unit, said winding length deciding unit decides determines that a longest winding length of said winding lengths is the next winding length ~~the one kind of winding length as the winding length next wound; and~~

wherein when said winding length deciding unit determines that no defect exists in said winding lengths, judging that a defect portion exists, said winding length deciding unit decides determines the next plurality of winding lengths by determining whether or not another defect exists in ~~a shorter other kind of winding lengths~~ said next plurality of said winding lengths.

3. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 1, wherein said winding length deciding unit calculates combinations of winding lengths in which said tape can be wound without including any defect portions and with the least waste of said tape from ~~one said~~ pancake based on position data read from said memory unit, ~~and decides the winding lengths.~~

4. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 3, wherein

said winding length deciding unit calculates ~~all~~ a plurality of combinations of winding lengths which are equal to or less than a length from a first defect to a second defect, compares ~~among~~ said windingable lengths in each combination calculated, and selects the longest winding length combination ~~a combination windable longest~~.

5. (CURRENTLY AMENDED) A tape production supporting apparatus to cut out tape ~~without waste~~ from a pancake, the apparatus comprising:

an input unit used in setting ~~plural kinds~~ a plurality of winding lengths scheduled to be produced in a production plan of a current day;

a memory unit which ~~memorizes~~ position data of defect portions of a tape in ~~the~~ a pancake;

a computing unit which ~~calculates~~ combinations of winding lengths which can be wound without including the defect portions and with ~~the~~ a least amount of waste, said combination calculations being based on the position data read from said memory unit and the ~~plural kinds~~ plurality of winding lengths ~~set through the input unit~~;

a ratio computing unit which ~~obtains~~ a ratio of the ~~usable~~ tape ~~usable~~ from said ~~one~~ pancake based on the combinations of the winding lengths calculated by said computing unit;

and

an output unit which ~~outputting judgement~~ judgment results of said ratio computing unit.

6. (CURRENTLY AMENDED) A tape cutting method to cut out tape ~~without waste~~ from a pancake, the method comprising the steps of:

~~a calculation step~~ calculating combinations of winding lengths of a tape which can be wound without including defect portions and with the least waste from ~~one a~~ pancake, wherein said calculations are based on plural kinds a plurality of winding lengths set in advance and position data of said defect portions of said tape in ~~the~~ said pancake recorded in advance;

~~a ratio calculating step~~ calculating a ratio of ~~the~~ usable tape ~~usable~~ from said ~~one~~ pancake based on the combinations of the winding lengths calculated by said calculation step; and

~~a tape cutting step~~ deciding whether or not the pancake is usable based on said ratio calculating step, and

cutting ~~the~~ unusable tape from the pancake when the pancake is determined to be usable.

7. (CURRENTLY AMENDED) The ~~T~~tape cutting-out equipment according to claim 1, wherein said tape is a magnetic tape.

8. (CURRENTLY AMENDED) The ~~T~~tape cutting-out equipment according to claim 2, wherein said tape is a magnetic tape.

9. (CURRENTLY AMENDED) The ~~T~~tape cutting-out equipment according to claim 3, wherein said tape is a magnetic tape.

10. (CURRENTLY AMENDED) The ~~T~~tape cutting-out equipment according to claim 4, wherein said tape is a magnetic tape.

11. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 5, wherein said tape is a magnetic tape.

12. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 6, wherein said tape is a magnetic tape.

13. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 1, wherein said tape is an optical recording tape.

14. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 2, wherein said tape is an optical recording tape.

15. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 3, wherein said tape is an optical recording tape.

16. (CURRENTLY AMENDED) The ~~T~~ape cutting-out equipment according to claim 4, wherein said tape is an optical recording tape.

17. (CURRENTLY AMENDED) ~~A~~-The tape cutting-out equipment according to claim 5, wherein said tape is an optical recording tape.

18. (CURRENTLY AMENDED) ~~A~~The tape cutting-out equipment according to claim 6, wherein said tape is an optical recording tape.

19. (NEW) A tape production supporting apparatus to cut out tape from a pancake, the apparatus comprising:

an input unit used in setting a plurality of winding lengths scheduled to be produced in a production plan of a current day;

a memory unit which memorizes position data of defect portions of a tape in a pancake;

a computing unit which calculates combinations of winding lengths which can be wound without including the defect portions, said combination calculations being based on the position data read from said memory unit and the plurality of winding lengths;

a ratio computing unit which obtains a ratio of usable tape from said pancake based on the combinations of the winding lengths calculated by said computing unit; and

an output unit which outputs judgment results of said ratio computing unit.